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COTTON is the principal cash crop in the El Paso Valley. It was grown on approximately 70 percent of the cultivated land during the 5-year period, 1944-48. An abundance of irrigation water, rich alluvial soils, low rainfall and the relatively low incidence of insects and diseases are conducive to the production of high yields of superior quality cotton. The average yield in El Paso county during these 5 years was approximately 1¾ bales of lint per acre. Nearly 82 percent of the crop was of 1-3/32-inch staple or longer, and 52 percent graded Strict Middling Extra White or better.

Although irrigated cotton was penalized on the market for many years, cotton grown in the El Paso Valley is now well known for its high spinning performance and usually receives a price premium. This has been brought about by the concerted effort of local growers to use better cultural and ginning practices, and through the use of varieties with special fiber properties. Except for limited acreage of American Egyptian cotton, the area is planted exclusively to Acala 1517 and related varieties. These varieties have fibers with great tensile strength and very strong yarns are obtained from the manufactured product.

Approximately 100 strains of cotton have been tested for yield, staple, lint percent and other characteristics at the El Paso Valley Experiment Station at Ysleta since it was established in 1942. Some of the less promising of these varieties and strains were eliminated from the tests after 1 or 2 years, and others have been tested for longer periods. Spinning tests have been made on some of the higher-yielding varieties since 1943, and fiber strength tests have been made on all varieties grown since 1945.

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Procedure

Various agronomic data were obtained by replicated small plot procedures. The size of plots, number of replications, and planting and harvesting dates varied from year to year. These are shown in Table 6 of the Appendix. Boll size, lint percent, staple and fiber strength were determined from replicated 15 or 50-boll samples picked just prior to the first picking date and ginned on a small laboratory gin.

Seed were obtained directly from the breeders in some instances, and at other times through regular trade channels. The original source of seed for all varieties and strains tested is shown in Table 5 of the Appendix.

Staple determinations for the tests conducted 1943-47 were made at the El Paso Classing Office of the Production and Marketing Administration, U. S. Department of Agriculture. Stapling for the 1948 season was done by J. M. Ward, a licensed classer at College Station.

The Pressley Strength Tester was used for fiber strength determinations. These measurements were made in the fiber laboratory at the Ysleta station except for the 1948 season, when they were made by the Texas Cotton Research Committee at Lubbock.

Samples of approximately 30 pounds of seed cotton were submitted to the Fiber Testing Laboratory, U. S. Department of Agriculture for routine small sample spinning tests.

Approximately 3 pounds of seed from each variety tested during the 1946-48 seasons were sent to the Cottonseed Products Research Laboratory at College Station for chemical analysis.

Yield data were corrected for all skips over 3 feet according to the formula

$$\text{corrected yield} = \frac{\text{actual yield x plot length}}{\text{plot length}-(b-3a)}$$

where (b) represents the total length of all skips 4 feet or wider and (a) represents the number of such skips.

In summarizing data from various years, adjustments were made to eliminate the yearly differences. Yearly correction factors are shown in Table 6 of the Appendix. For example, the correction factor of 18.6 for the lint yield for 1943 indicates that the average yield of standard varieties was 18.6 pounds less than their average for the entire 6-year period. Consequently, 18.6 was added to the yield of each variety grown during 1943 in arriving at an adjusted yield for summary purposes.

Results

Thirty-two varieties have been tested for 3 or more years. The average agronomic data recorded on these varieties are shown in Table 1. Data for the varieties tested each year are shown in Tables 7 to 12 of the Appendix.

Results of fiber tests, staple and grade classifications, and carded yarn processing tests for 10 varieties which have been tested for 3 or more years are shown in Table 2. The classers and equivalent staple length of these varieties are shown in Figure 1. The equivalent staple length is the staple length generally required of average cotton to produce yarn strengths obtained for that particular sample. Data from combed yarn spinning tests for five varieties grown during 1948 are shown in Table 3.

The average seed analysis of 27 varieties grown 1946-48 are shown in Table 4. Grade calculations were made in accordance with the procedure outlined by the National Cottonseed Products Association, taking into consideration both the quantity of oil and ammonia, and the quality of the oil.

Varieties included in these tests differed widely in yield. Experience has shown, however, that considerable weight must be given to fiber strength and spinning performance in addition to yield, since cotton in the El Paso area is sold principally on the basis of spinning performance. Acala 1517 WR and Acala 1517 produced yarn strength equivalents of more than 2.5-32nds inch above their classer's staple lengths. These two, and related varieties are outstanding in this characteristic. The growing and mixing of varieties with shorter and weaker fiber would seriously disrupt marketing of cotton grown in this area.

Table 1. Average agronomic data recorded on 32 varieties and strains of cotton grown at Ysleta for 3 or more years, adjusted for yearly differences[1]

Variety	Year Years grown	Lint yield, pounds per acre	Lint, percent	Staple, 1/32 inch	Boll size[2]	Seed index[3]	Fiber strength[4]	Earliness[5]
Coker 4 in 1	5	1276	35.8	35.0	66	13.4	89	74.0
Miller 610	3	1267	38.1	31.4	59	13.2	81	75.0
Deltapine 14 & 15[6]	6	1255	40.4	34.3	73	11.0	82	67.8
Delta Dixie WR	4	1220	37.6	33.4	69	11.5	81	73.6
Dixie Triumph WR Str. 11	3	1195	36.4	33.9	69	12.2	84	73.1
Acala 1517 WR	4	1176	36.0	35.3	59	14.2	100	72.0
Coker 100	4	1172	38.2	34.4	71	11.3	87	74.5
Arkot 2 (E4)	4	1162	35.3	34.7	64	12.8	82	75.1
Acala 1517	5	1159	37.5	35.6	57	13.9	95	78.2
Stonewilt	3	1152	36.5	33.5	68	11.9	81	76.7
Acala P-18-C	4	1152	39.4	34.0	55	13.9	80	71.2
Coker 100, Wilt	6	1150	36.9	34.1	68	11.7	82	79.0
Acala 11	3	1150	37.6	35.9	57	13.9	101	75.0
Coker 100, Staple	5	1148	36.8	35.5	68	11.9	85	63.7
Acala 4-42 (Calif.)	3	1146	38.6	35.2	61	13.5	91	73.4
Acala W-29-6	3	1118	36.7	35.4	62	14.0	101	74.2
Empire	4	1106	39.1	33.3	56	14.1	85	79.0
Stoneville 5A	5	1099	36.5	33.9	70	11.9	83	73.7
Stoneville 2B	6	1095	36.4	34.3	63	12.7	84	74.4
Lentz Acala	6	1094	35.8	34.4	63	13.1	85	71.7
Ivey No. 3	4	1081	35.3	36.0	66	13.2	87	65.7
Acala 1517 A (2815)	6	1080	38.0	36.3	56	13.8	95	76.7
Rogers Acala 111	6	1076	37.3	35.0	63	13.3	91	66.7
Stoneville 2B WR	3	1074	36.2	33.8	64	12.9	83	72.6
Hi-Bred	3	1065	41.9	28.2	62	12.0	83[7]	79.7
Santan Acala	5	1057	38.7	34.0	57	13.5	79	72.8
Ivey No. 1	4	1055	34.3	37.3	65	14.7	96	66.0
Stoneville 4B	4	1014	35.1	33.3	56	14.4	93	74.6
Mesa Acala	5	1014	32.7	39.1	57	15.0	99	70.2
Delfos 719	4	1010	36.3	34.5	63	13.7	85	80.3
Delfos 9169	4	1003	37.0	34.3	64	12.2	82	68.3
Wilds	5	805	33.6	38.8	70	14.3	95	73.0

[1]Fiber strength and seed index, 2 or more years.
[2]Expressed as number of bolls necessary to produce one pound of seed cotton.
[3]Weight in grams per 100 seed.
[4]Expressed as percent of Acala 1517 WR.
[5]Expressed as percent of the crop harvested at first picking.
[6]1943-46 Deltapine 14; 1947-48 Deltapine 15.
[7]1947 results only.

Table 2. Results of fiber tests, staple and grade classifications, and carded yarn processing tests for 10 varieties of cotton grown at Ysleta for 3 or more years, 1944-48[1]

Test	Acala 1517 WR	Acala 1517	Stoneville 2B	Coker 100, Wilt	Acala 4-42	Coker 100, Staple	Acala P-18-C	Coker 4 in 1	Deltapine 14	Stonewilt
Number of years tested	4	4	4	4	3	3	3	3	3	3
Fiber test results:										
Length (Fibrograph)										
Upper half mean (inches)	1.09	1.11	1.05	1.06	1.09	1.07	1.04	1.08	1.06	1.05
Mean (inches)	.85	.88	.78	.80	.86	.79	.79	.82	.80	.82
Uniformity ratio	78	79	75	76	78	74	76	76	75	78
Fineness (wt. per inch in micrograms)	3.7	3.9	3.8	4.0	4.2	3.8	4.1	4.1	4.2	4.2
Mature fibers (percent)	81	76	72	78	78	78	79	78	80	78
Tensile strength (1,000 pounds per square inch)	89	84	76	70	78	72	65	72	71	69
Classification and processing results:										
Grade[2]	5.2	5.8	7.5	7.8	6.2	6.3	5.5	6.5	6.1	7.1
Picker and card waste (percent)	6.3	7.0	8.5	8.9	7.4	7.4	7.4	7.5	6.8	7.9
Neps per 100 square inch of card web	19	20	16	19	15	12	17	14	17	12
Staple length:										
Classer's (1/32's inch)	35.2	34.8	33.4	33.8	34.4	34.4	33.1	34.4	33.7	33.7
Equivalent (1/32's inch)	40.7	37.6	33.3	31.7	34.4	33.4	28.9	33.9	32.2	30.9
Yarn skein strength:										
22s (pounds)	138	126	112	107	117	112	98	116	111	105
36s (pounds)	75	69	60	57	63	60	51	62	58	55
50s[4] (pounds)	53	48	42	39	44	41	35	[5]	[5]	[5]
Yarn appearance grade:[3]										
22s	5.2	5.1	5.0	5.8	4.5	5.5	5.2	5.3	4.7	4.7
36s	6.9	7.0	7.0	6.8	6.9	6.9	6.9	7.0	6.0	5.0
50s[4]	7.3	7.7	8.1	7.7	7.6	7.6	7.7	[5]	[5]	[5]

[1]Data from U. S. Department of Agriculture spinning test reports. Adjusted for yearly differences according to procedure outlined by R. E. Patterson (Jour. Amer. Statistical Assoc. 41: 334-346, 1946).
[2]Classer's grades assigned numerical values as follows: 1 = SGM; 2 = GM; 3 = SM; 4 = Mbr; 5 = M; 6 = SLMbr; 7 = SLM; 8 = LMbr; 9 = LM.
[3]Yarn appearance grades assigned numerical values as follows: 1 = A+; 2 = A; 3 = A−; 4 = B+; 5 = B; 6 = B−; 7 = C+; 8 = C; 9 = C−; 10 = D+.
[4]Data for 2 or more years.
[5]Insufficiant data for these varieties.

Table 3. Results of fiber tests, staple and grade classifications, and combed yarn processing tests for 5 varieties of cotton grown at Ysleta, 1948[1]

Test	Acala 1517 WR	Acala 1517 A	Mesa Acala 17-33	Coker 100 Staple	Sealand 542
Fiber tests results:					
Length (Fibrograph):					
Upper half mean (inches)	1.13	1.14	1.24	1.06	1.26
Mean (inches)	.87	.86	.93	.76	.85
Uniformity ratio	77	75	75	72	67
Fineness (wt. per inch in micrograms)	4.1	3.9	3.7	3.9	3.4
Mature fibers (percent)	88	81	89	88	81
Tensile strength (1000 pounds per square inch)	93	82	91	76	87
Classification and processing results:					
Grade	SMEW	MEW	MEW	MEW	M
Staple length (inches)	1-1/8	1-3/32	1-7/32	1-3/32	1-1/4
Picker and card waste (percent)	9.4	10.1	10.4	10.8	11.7
Comber waste (percent)	15.4	15.4	17.6	17.9	17.2
Neps per 100 square inches of card web	11	17	16	13	18
Yarn skein strength:					
36s (pounds)	91	83	88	71	88
60s (pounds)	47	42	48	35	46
100s (pounds)	24	21	24	17	24
Combed 36/2 (pounds)	194	185	208	164	206
Carded 36/2 (pounds)	180	168	188	145	176
Yarn appearance grade:					
36s	B	B	B	B+	C+
60s	B	B	B	B	C+
100s	C+	C+	C+	C+	C+

[1]Data from U. S. Department of Agriculture spinning test reports.

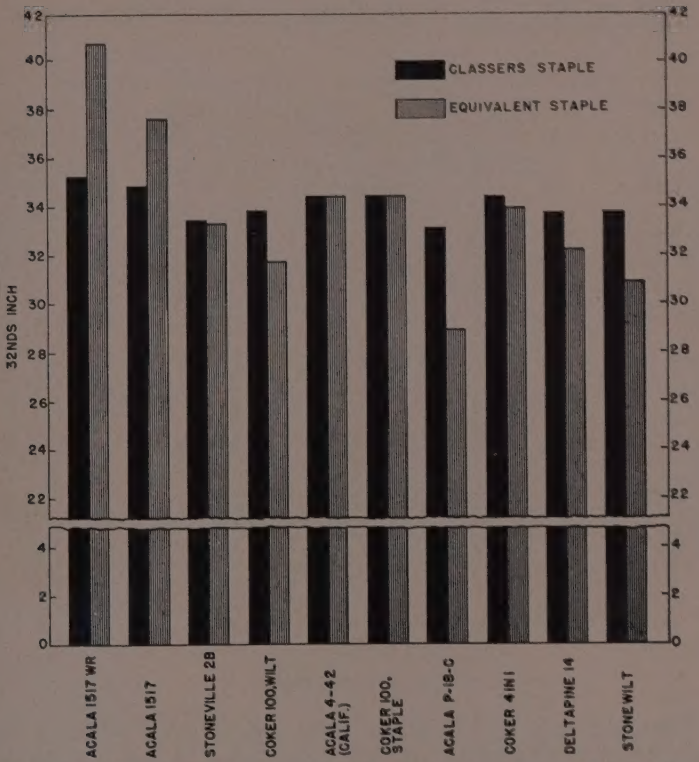

Figure 1. The classers' and equivalent staple lengths of 10 varieties of cotton grown at Ysleta for 3 or more years. These data are from U. S. Department of Agriculture reports.

Table 4. Seed analysis of 27 varieties of cotton grown at Ysleta, 1946-48, adjusted for yearly differences

Variety	Years grown	Percent trash and dirt	Percent moisture	Percent free fatty acids	Percent oil	Percent protein	Percent lint	Grade
Empire	3	.40	6.6	0.3	21.7	21.36	11.7	117.00
Rogers Acala 111	3	.33	6.5	0.3	20.8	21.21	10.8	112.92
Acala 1517 WR	3	.02	6.6	0.3	21.0	20.19	12.5	112.58
Stoneville 2B	3	.50	6.3	0.3	21.1	20.01	12.3	112.74
Mesa Acala	3	.33	7.0	0.3	20.6	19.65	12.0	110.32
Coker 100, Staple	3	.40	6.4	0.2	20.3	20.35	13.1	109.96
Santan Acala	3	.30	6.7	0.2	20.0	20.86	13.9	109.36
Acala 1517A (2815)	3	.27	6.8	0.3	20.0	19.87	14.5	108.22
Lentz Acala	3	.30	6.6	0.3	20.1	19.21	12.5	107.78
Deltapine 14 & 15	3	.33	7.1	0.3	19.7	20.36	11.4	107.56
Coker 100, Wilt	3	.27	6.6	0.3	19.6	19.54	14.8	106.26
Acala 4-42 (Calif.)	3	.23	6.8	0.3	19.4	20.63	14.4	106.66
Wilds	2	.18	5.7	0.3	22.3	19.63	12.1	117.12
Acala W-29-6	2	.18	7.1	0.3	21.1	21.28	12.9	114.24
Acala 5672	2	.49	6.9	0.2	21.5	20.18	11.1	114.58
Sealand 542	2	.54	6.7	0.3	21.3	20.49	11.8	114.14
Delfos 9169	2	.23	6.4	0.3	21.5	19.57	12.3	113.86
Acala 1517 RB	2	.29	6.8	0.2	21.1	20.37	13.5	113.16
Acala 139	2	.34	6.9	0.2	20.9	20.47	12.3	112.54
Acala 892	2	.29	6.7	0.2	20.8	19.87	13.5	111.42
Acala 142	2	.34	6.9	0.2	20.8	20.15	12.2	111.72
Stoneville 5A	2	.48	6.5	0.2	20.9	19.94	11.3	111.88
Acala 1517	2	.18	7.0	0.3	20.3	20.72	14.1	110.38
Coker 4 in 1	2	.23	6.7	0.3	20.7	19.50	13.3	110.54
Ivey No. 1	2	.23	6.4	0.4	20.1	20.47	13.6	109.34
Acala P-18-C	2	.21	6.7	0.2	19.9	20.69	13.0	108.72
Ivey No. 3	2	.18	6.0	0.3	19.3	19.13	12.5	104.52

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APPENDIX

Table 5. Source of seed used in cotton variety tests[1]

Acala 4-42 (Calif)	U. S. Cotton Field Station, Shafter, California
Acala 11	U. S. Cotton Field Station, State College, N. M.
Acala P-18-C	U. S. Cotton Field Station, Shafter, California
Acala W-29-4	U. S. Cotton Field Station, State College, N. M.
Acala W-29-6	U. S. Cotton Field Station, State College, N. M.
Acala 39-59	U. S. Cotton Field Station, State College, N. M.
Acala 39-75	U. S. Cotton Field Station, State College, N. M.
Acala 39-98	U. S. Cotton Field Station, State College, N. M.
Acala 39-101	U. S. Cotton Field Station, State College, N. M.
Acala 39-104	U. S. Cotton Field Station, State College, N. M.
Acala 40-26-1	U. S. Cotton Field Station, State College, N. M.
Acala 67	Texas Agricultural Experiment Station, Ysleta, Texas
Acala 68	Texas Agricultural Experiment Station, Ysleta, Texas
Acala 139	Texas Agricultural Experiment Station, Ysleta, Texas
Acala 142	Texas Agricultural Experiment Station, Ysleta, Texas
Acala 892	Oklahoma Experiment Station, Stillwater, Oklahoma
Acala 1493	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 1517	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 1517 A (2815)	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 1517 B (5563)	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 1517 RB	U. S. Cotton Field Station, Sacaton, Arizona
Acala 1517 WR	U. S. Cotton Field Station, State College, N. M.
Acala 1980	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 2321	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 3179	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 3754	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 3788	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 3794	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 5482	New Mexico Agricultural Experiment Station, State College, N. M.
Acala 5675	U. S. Cotton Field Station, Knoxville, Tenn.
Acala 5505	New Mexico Agricultural Experiment Station, State College, N. M.
Arkot 1 (B4)	Cotton Branch Station, Marianna, Arkansas
Arkot 2 (E4)	Cotton Branch Station, Marianna, Arkansas
Bobshaw 1	Bobshaw Seed Company, Indianola, Mississippi
Bobdel 06	Bobshaw Seed Company, Indianola, Mississippi
Cliett	Cliett Cotton Breeding Farms, San Marcos, Texas
Coker 4 in 1	Coker Pedigreed Seed Co., Hartsville, S. C.
Coker 100	Coker Pedigreed Seed Co., Hartsville, S. C.
Coker 100, Wilt	Coker Pedigreed Seed Co., Hartsville, S. C.
Coker 200	Coker Pedigreed Seed Co., Hartsville, S. C.
Coker 100, Staple	Coker Pedigreed Seed Co., Hartsville, S. C.
Delfos 425	Northeast Louisiana Agric. Exp. Station, St. Joseph, La.
Delfos 444	Louisiana Agricultural Experiment Station, Baton Rouge, La.
Delfos 531C	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Delfos 651	Delta Experiment Station, Stoneville, Mississippi
Delfos 719 (Washington)	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Delfos 3506	Delta Experiment Station, Stoneville, Mississippi
Delfos 6644	Delta Experiment Station, Stoneville, Mississippi
Delfos 9169	Stoneville Pedigreed Seed Co., Stoneville, Mississippi
Delta Dixie Wt. Res.	L. B. Wannamaker, St. Matthews, S. C
Deltapine 14	Delta & Pine Land Company, Scott, Mississippi
Deltapine 15	Delta & Pine Land Company, Scott, Mississippi
Deltatype Webber	Delta Experiment Station, Stoneville, Mississippi
Dixie Triumph 366	Louisiana Agricultural Experiment Station, Baton Rouge, La.
Dixie Triumph Wt. Res. Str. 11	L. B. Wannamaker Seed Company, St. Matthews, S. C.
Dixie Triumph Wt. Res. Str. 21	Agricultural Experiment Station, Tifton, Ga.
Dortch's Supreme	R. L. Dortch, Scott, Arkansas
Empire	Georgia Agricultural Experiment Station, Experiment, Georgia
Hi-Bred	E. F. Summerous Seed Company, Norcross, Georgia
Ivey No. 1	K. B. Ivey, Ysleta, Texas
Ivey No. 3	K. B. Ivey, Ysleta, Texas
Lankart	C. S. Lankart, Waco, Texas
Lentz Acala	Cody Lentz, Victoria, Texas
Mebane, A. D. Estate	A. D. Mebane Estate, Lockhart, Texas
Mesa Acala	Stahmann Farms, Las Cruces, N. M.
45-844	Delta & Pine Land Company, Scott, Mississippi
45-867	Delta & Pine Land Company, Scott, Mississippi
Miller 610	Agricultural Experiment Station, State College, Mississippi
Missdel x Acala 10-13	U. S. Cotton Field Station, Shafter, California
Missdel x Acala 23-21	U. S. Cotton Field Station, Shafter, California
Northern Star	Northern Star Seed Farms, O'Brien, Texas

Table 5. Source of seed used in cotton variety tests[1]—Continued

Rhyne Cook	B. C. Rhyne, Benton, Alabama
Roldo Rowden	R. L. Dortch, Scott, Arkansas
Rowden 41B	Cotton Branch Station, Marianna, Arkansas
Roldo Rowden x Stoneville 5B-158	Texas Agricultural Experiment Sta., College Station, Texas
Rogers Acala 111	John D. Rogers, Navasota, Texas
Santan Acala	U. S. Cotton Field Station, Shafter, California
Sealand 542	Pee Dee Experiment Station, Florence, S. C.
Stoneville 5A	Stoneville Pedigreed Seed Company, Stoneville, Mississippi
Stoneville 2B	Stoneville Pedigreed Seed Company, Stoneville, Mississippi
Stoneville 2B Wt. Res	B. C. Rhyne, Benton, Alabama
Stoneville 2B-85	Texas Agricultural Experiment Station, College Station, Texas
Stoneville 2B x Rogers Acala 4-128	Texas Agricultural Experiment Station, College Station, Texas
Stoneville 4B (Ambassador)	Stoneville Pedigreed Seed Company, Stoneville, Mississippi
Stonewilt	W. W. Wannamaker, St. Matthews, S. C.
Tidewater No. 13	Pee Dee Experiment Station, Florence, S. C.
Texacala	John D. Rogers, Navasota, Texas
Western Mebane 140	Texas Substation No. 12, Chillicothe, Texas
Wilds	Coker Pedigreed Seed Company, Hartsville, S. C.
Mesilla Acala	Stahmann Farms, Las Cruces, N. M.

[1]Strain numbers of closely related strains from the same breeder have been eliminated. In some instances seed was obtained through commercial channels.

Table 6. Miscellaneous data, cotton variety tests, 1943-48

	1943	1944	1945	1946	1947	1948
Number varieties	36	49	36	36	39	22
Date planted	April 26-27	April 17-18	April 18	April 13-14	April 15	April 26
Date picked:						
First picking	Oct. 27-29	Oct. 23-25	Oct. 22-23	Sept. 16-18	Oct. 10-14	Oct. 2-11
Second picking	Dec. 21-24	Dec. 18-19	Nov. 12-13	Oct. 25-28	Nov. 25	Nov. 4- 5
Third picking	.....	.....	.....	Nov. 26	.....	Dec. 21-22
Plot size	36'' x 100'	40'' x 97'	42'' x 100'	40'' x 100'	38'' x 80'	38'' x 80'
Number replications	6	6	8	10	12	10
Laboratory samples:						
Bolls per sample	15	15	50	50	50	50
Replications	6	6	5	5	5	4
Replications for staple and fiber analysis	2	6	5	5	5	4
Correction factors:						
Lint yield, lbs. per acre	18.6	—86.4	—9.1	—138.1	96.7	118.2
Lint percent	—2.1	—.9	—.4	—1.9	—.1	1.3
Staple, 1/32 inch	.2	—.4	.3	.5	1.1	.4
Boll size	—1.6	.2	—.9	3.0	—2.6	1.9
Weight per 100 seeds	.6	.9	.3	—1.2	—.4	.....
Fiber strength	.....	.....	—1.0	1.2	.7	—.7
Earliness	—8.7	—3.6	—4.0	25.8	—5.6	—4.0

Table 7. Agronomic data on 36 varieties of cotton grown at Ysleta, 1943

Variety	Yield, pounds per acre		Lint, percent	Staple 1/32 inch	Boll size[1]	Seed Index[2]	Earliness[3]
	Lint	Seed cotton					
Deltapine 14	1310	3075	42.6	34.0	73	10.4	79.1
Coker 100, Wilt	1208	3065	39.4	33.0	75	10.7	84.6
Stoneville 2B	1183	3147	37.6	35.0	63	12.3	84.0
Stoneville 5A	1177	3074	38.3	33.5	76	10.8	86.7
Coker 4 in 1	1156	3132	36.9	35.0	69	13.1	79.3
Coker 200	1141	2845	40.1	33.0	82	10.5	88.2
Delta Dixie WR	1141	2926	39.0	33.5	69	10.9	83.1
Stoneville 4B	1140	3168	36.0	33.5	56	14.2	81.3
Arkot 2 (E4)	1138	3093	36.8	34.0	68	11.8	85.5
Coker 100	1086	2674	40.6	33.0	78	10.2	86.1
Delfos 719	1070	2860	37.4	35.0	64	12.4	88.2
Delfos 531-C	1061	2851	37.2	35.0	83	10.4	82.7
Lentz Acala	1058	2806	37.7	34.0	66	12.4	82.4
Western Mebane 140	1025	2458	41.7	29.0	64	11.3	78.8
Acala 1517 A (2815)	976	2405	40.6	36.0	56	13.2	81.8
Acala 1493	976	2459	39.7	36.0	59	12.9	82.8
Hi-Bred	958	2173	44.1	30.0	65	11.3	84.3
Acala 39-98	947	2315	40.9	35.5	55	13.2	81.4
Acala 3754	946	2329	40.6	36.0	58	12.6	74.1
Acala 3179	941	2370	39.7	36.0	58	12.7	79.9
Acala 1980	939	2572	36.5	37.0	60	14.2	82.6
Acala 1517	917	2288	40.1	35.5	57	13.3	84.2
Acala 2321	912	2399	38.0	36.0	60	12.4	84.4
Rogers Acala 111	900	2290	39.3	35.0	62	13.2	76.3
Delfos 3506	890	2343	38.0	35.5	80	10.8	78.5
Delfos 6-651	885	2411	36.7	34.5	84	10.4	87.7
Roldo Rowden	848	2268	37.4	34.0	55	15.5	77.0
Acala 3794	829	2119	39.1	37.0	57	13.4	83.1
Delfos 444	805	2374	33.9	35.0	84	11.1	80.8
Acala 39-59	803	1998	40.2	35.5	55	13.5	79.0
Delfos 425	798	2374	33.6	37.0	82	12.2	82.6
Acala 39-104	794	2047	38.8	35.5	61	13.8	85.1
Wilds	768	2214	34.7	38.0	74	13.9	85.7
Mebane, A. D. Estate	762	1886	40.4	33.0	49	14.6	71.0
Delfos 6644	760	2283	33.3	35.5	79	11.6	77.2
Acala 39-101	648	1650	39.3	36.0	57	13.9	82.2
Least significant difference:							
Odds: 19:1	162	421	.9	1.8	5	.7	.....
Odds: 99:1	213	554	1.2	2.4	7	.9	.....

[1]Expressed as the number of bolls necessary to produce one pound seed cotton.
[2]Weight in grams per 100 seed.
[3]Expressed as the percentage of the crop harvested at the first picking.

Table 8. Agronomic data on 49 varieties of cotton grown at Ysleta in 1944

Variety	Yield, pounds per acre		Lint, percent	Staple 1/32 inch	Boll size[1]	Seed index[2]	Earliness[3]
	Lint	Seed cotton					
Miller 610	1452	3678	39.5	30.7	55	13.1	73.4
Coker 4 in 1	1446	3982	36.3	34.7	68	12.8	76.0
Arkot 2	1435	3929	36.5	35.2	63	12.1	78.9
Coker 100, Wilt	1355	3650	37.1	35.3	68	11.0	81.6
Delta Dixie WR	1321	3472	38.0	33.7	67	10.6	78.0
Stoneville 2B WR	1311	3646	36.0	34.8	61	12.4	73.5
Dixie Triumph WR Str. 11	1308	3589	36.4	34.5	70	11.9	70.7
Delfos 9169	1293	3476	37.2	36.0	64	11.8	72.6
Western Mebane 140	1284	3162	40.6	29.7	66	11.5	77.9
Coker 100, Staple	1274	3422	37.2	36.7	67	11.3	64.7
Acala 1517	1269	3340	38.0	36.0	56	13.5	83.0
Lentz Acala	1267	3494	36.3	34.7	62	12.3	74.9
Stonewilt	1256	3375	37.2	33.7	68	11.0	77.0
Coker 100	1250	3156	39.6	35.0	68	10.6	74.7
Acala 1517 A (2815)	1246	3183	39.1	36.3	55	13.3	82.8
Dortch's Supreme 10	1244	3511	35.4	34.0	61	13.1	70.4
Hi-Bred	1204	2760	43.6	26.0	59	11.4	88.7
Dixie Triumph WR Str. 21	1194	3262	36.6	34.0	60	11.9	56.7
Acala 5482	1191	2863	41.6	35.8	57	12.3	78.7
Stoneville 2B (8275)	1183	3153	37.6	35.2	62	12.2	68.0
Acala 40-26-1	1176	3006	39.1	35.3	62	11.9	84.0
Bobshaw 1	1174	3123	37.6	33.3	71	11.1	70.4
Rogers Acala 111	1172	2995	39.1	34.5	61	12.5	75.3
Acala 3788	1170	3172	36.9	36.7	59	12.8	79.5
Rhyne Cook	1160	3129	37.1	30.5	62	12.0	69.8
Stoneville 4B	1132	3158	35.9	32.2	54	13.8	84.9
Acala 3179	1127	2985	37.8	36.2	58	12.9	83.6
Santan Acala	1126	2850	39.5	35.3	53	13.2	76.4
Ivey No. 3	1124	3125	36.0	37.0	63	12.4	71.9
Mesa Acala	1117	3534	31.6	40.5	54	14.8	81.4
Acala 11	1107	2914	38.0	36.0	56	13.7	79.7
Delfos 719	1078	2948	36.6	34.2	60	13.0	79.1
Acala 5505	1071	2970	36.1	37.8	57	13.7	81.7
Acala P-18-C	1053	2641	40.0	34.5	56	12.7	75.9
Deltapine 14 (833)	1042	2574	40.5	34.7	76	10.1	75.3
Dixie Triumph 366	1041	2771	37.6	31.7	70	10.9	72.9
Delfos 531C	1030	2958	34.8	36.2	78	10.2	80.0
Acala 39-75	1026	2767	37.1	37.0	62	13.2	85.5
Stoneville 5A	1022	2819	36.3	34.2	70	11.6	71.4
Ivey No. 1	964	2741	35.2	37.7	65	14.5	70.3
Coker 200	859	2237	38.4	35.2	79	10.5	74.3
Delfos 651-050	859	2430	35.3	36.0	65	12.1	69.8
Wilds	847	2501	33.9	40.3	67	14.4	73.9
Deltatype Webber No. 2149	845	2420	34.9	37.2	62	14.5	66.7
45-844	840	2585	32.5	43.8	69	12.4	52.0
Tidewater 13	774	2548	30.4	44.2	67	12.9	60.9
Delfos 425-920	740	2263	32.7	36.3	71	12 0	60.9
Mebane, A. D. Estate	696	1816	38.3	33.7	48	15.0	59.6
45-867	563	1743	32.5	44.0	73	12.1	54.3
Least significant difference:							
Odds: 19:1	229	620	1.3	1.1	4	.8	.....
Odds: 99:1	303	819	1.7	1.4	6	1.0	.....

[1]Expressed as the number of bolls necessary to produce one pound of seed cotton.
[2]Grams per 100 seed.
[3]Expressed as the percentage of the crop harvested at the first picking.

Table 9. Agronomic data on 36 varieties of cotton grown at Ysleta, 1945

Variety	Yield, pounds per acre		Lint, percent	Staple, 1/32 inch	Boll size[1]	Seed index[2]	Fiber strength[3]	Earliness[4]
	Lint	Seed cotton						
Deltapine 14	1375	3411	40.3	34.2	72	11.4	83	69.1
Coker 100, Staple	1334	3635	36.7	35.8	66	11.5	85	74.2
Dixie Triumph 11	1304	3552	36.7	33.6	71	11.9	86	75.8
Stonewilt	1264	3417	37.0	33.0	69	11.6	81	82.0
Coker 4 in 1	1222	3277	37.3	34.6	66	12.7	94	79.8
Miller 610	1222	3191	38.3	32.0	61	13.0	81	77.9
Stoneville 5A	1214	3221	37.7	34.4	69	11.8	87	79.6
Coker 100, Wilt	1191	3151	37.8	33.2	70	11.0	84	86.2
Acala 11	1189	3048	39.0	35.6	56	13.5	104	80.7
Lentz Acala	1174	3244	36.2	34.0	64	12.6	86	79.6
Stoneville 2B	1160	3188	36.4	33.4	67	12.1	83	77.6
Coker 100	1122	2900	38.7	35.2	73	11.2	88	81.0
Stoneville 2B WR	1109	2989	37.1	34.2	63	12.6	85	77.3
Arkot 2 (E4)	1105	3087	35.8	34.6	63	12.1	85	81.5
Acala P-18-C	1104	2739	40.3	33.6	56	13.2	81	76.9
Acala 1517 WR	1104	3008	36.7	34.4	61	13.3	100	80.9
Delta Dixie WR	1103	2896	38.1	32.4	70	11.2	80	80.3
Santan Acala	1085	2762	39.3	33.2	58	12.7	81	76.9
Acala 1517	1084	2837	38.2	35.2	59	13.4	98	79.6
Ivey No. 1	1060	2969	35.7	37.4	66	13.9	96	70.6
Cliett	1056	2583	40.9	32.0	67	11.5	81	72.5
Ivey No. 3	1056	2967	35.6	35.8	71	13.4	88	78.1
Empire	1055	2706	39.0	33.0	57	13.5	87	86.2
Acala W-29-6	1045	2832	36.9	35.6	59	13.4	101	73.8
Stoneville 4B	1013	2791	36.3	33.8	59	13.8	93	83.8
Delfos 9169	987	2619	37.7	33.0	67	11.6	82	78.6
Rogers Acala 111	978	2672	36.6	35.2	65	12.4	91	67.3
Acala 1517 A (2815)	974	2510	38.8	35.8	57	13.5	96	80.4
Mesa Acala	967	2810	34.4	38.0	57	14.3	104	73.3
Arkot 1 (B4)	962	2552	37.7	33.4	63	12.9	84	80.6
Northern Star	958	2488	38.5	33.0	61	12.7	90	75.5
Texacala	918	2337	39.3	34.8	68	12.5	91	78.8
Delfos 719	891	2409	37.0	33.8	61	13.4	90	82.2
Rowden 41B	866	2291	37.8	32.0	59	15.0	86	80.2
Bobdel 06	861	2393	36.0	35.6	71	11.7	92	86.6
Wilds	817	2376	34.4	38.8	71	14.1	97	73.9
Least significant difference:								
Odds 19:1	181	483	1.3	1.6	5	.9	6	.....
Odds 99:1	239	637	1.8	2.1	6	1.2	7	.....

[1]Expressed as the number of bolls necessary to produce one pound of seed cotton.
[2]Grams per 100 seed.
[3]Expressed as the percentage of the fiber strength of Acala 1517 WR.
[4]Expressed as the percentage of the crop harvested at the first picking.

Table 10. Agronomic data on 33 varieties of cotton grown at Ysleta, 1946

Variety	Yield, pounds per acre		Lint, percent	Staple, 1/32 inch	Boll size[1]	Seed index[2]	Fiber strength[3]	Earliness[4]
	Lint	Seed cotton						
Delta Dixie WR	1529	4143	36.9	33.2	69	12.6	81	43.6
Deltapine 14	1510	3902	38.7	33.6	71	12.0	86	40.2
Acala P-18-C	1499	3976	37.7	33.2	53	14.8	82	44.6
Acala 1517	1484	4192	35.4	36.0	55	14.9	93	57.4
Acala 1517 WR	1477	4384	33.7	35.8	55	15.7	100	41.1
Acala 4-42 (Calif.)	1471	4009	36.7	34.6	58	14.6	88	55.0
Coker 100	1445	4095	35.3	33.6	66	12.6	85	46.5
Coker 4 in 1	1419	4173	34.0	34.4	64	14.4	85	49.4
Acala 11	1389	3947	35.2	35.8	56	14.4	98	46.3
Miller 610	1362	3804	35.8	31.0	60	14.6	80	55.5
Acala W-29-6	1354	3846	35.2	34.8	57	15.1	99	48.4
Ivey No. 3	1346	4029	33.4	36.2	64	14.2	87	41.4
Rogers Acala	1325	3764	35.2	34.0	61	14.5	87	40.1
Empire	1297	3507	37.0	33.4	52	15.5	84	48.8
Acala 1517 A (2815)	1288	3608	35.7	36.0	54	14.6	93	56.7
Stoneville 5A	1287	3710	34.7	33.0	67	13.0	79	50.6
Coker 100, Staple	1285	3692	34.8	35.2	69	13.3	88	45.6
Mesa Acala[5]	1276	4084	31.3	37.9	56	16.1	96	43.4
Arkot No. 1 (B4)	1269	3753	33.8	34.0	59	14.1	83	45.5
Ivey No. 1[5]	1265	3713	32.0	36.9	63	15.5	96	40.7
Delfos 9169	1247	3523	35.4	34.4	61	13.4	82	51.4
Santan Acala	1213	3296	36.8	33.6	56	14.3	84	44.0
Delfos 719	1216	3406	35.7	33.4	65	12.8	79	62.2
Dixie Triumph WR Str. 11	1206	3408	35.4	33.2	64	12.8	81	54.6
Arkot No. 2 (E4)	1186	3530	33.6	34.2	60	14.6	79	45.0
Coker 100, Wilt[5]	1173	3341	35.1	34.1	62	13.3	80	49.0
Stonewilt	1169	3360	34.8	33.4	65	13.1	80	53.0
Stoneville 2B	1140	3295	34.6	33.4	60	13.8	82	53.2
Lentz Acala	1139	3369	33.8	34.2	59	14.7	84	42.4
Bobdel 06	1026	3099	33.1	33.8	66	13.1	94	64.2
Stoneville 4B	986	2945	33.5	33.0	55	15.1	92	38.7
Stoneville 2B WR	985	2775	35.5	32.8	63	14.3	82	48.5
Wilds	934	2874	32.5	39.6	67	14.8	94	45.5
Least significant difference:								
Odds 19:1	198	571	.8	.8	3	.7	5	
Odds 99:1	261	751	1.1	1.1	4	1.0	7	

[1]Expressed as the number of bolls necessary to produce one pound of seed cotton.
[2]Grams per 100 seed.
[3]Expressed as the percentage of the fiber strength of Acala 1517 WR.
[4]Expressed as the percentage of the crop harvested at the first picking.
[5]Average of 2 strains.

Table 11. Agronomic data on 39 varieties of cotton grown at Ysleta, 1947

Variety	Yield, pounds per acre		Lint, percent	Staple, 1/32 inch	Boll size[1]	Seed index[2]	Fiber strength[3]	Earliness[4]
	Lint	Seed cotton						
Coker 4 in 1	1256	3495	35.9	35.8	66	13.8	86	81.5
Acala 142	1219	3377	36.1	36.6	70	12.6	93	85.4
Deltapine 15	1203	2963	40.6	35.8	74	11.2	78	68.3
Acala 68	1182	3191	37.0	35.6	63	13.7	90	86.1
Acala 1517	1160	3088	37.6	35.8	61	14.5	93	82.7
Acala 5675	1092	2768	39.4	35.4	65	15.4	94	82.8
Acala P-18-C	1089	2778	39.2	35.2	57	14.3	76	74.7
Acala 1517 RB	1089	2906	37.5	36.8	59	14.3	87	79.7
Deltapine 14	1083	2651	40.9	35.2	75	11.5	77	68.7
Ivey No. 1	1066	3164	33.7	37.8	68	15.2	96	69.9
Acala 1517 A (2815)	1050	2790	37.6	36.6	60	14.2	96	81.7
Rogers Acala 111	1045	2803	37.3	36.0	69	14.1	90	73.0
Acala 1517 WR	1035	2866	36.1	36.0	61	15.0	100	82.6
Acala W-29-4	1015	2831	35.8	36.0	64	15.0	101	73.3
Hi-Bred	1005	2449	41.1	29.8	67	12.2	82	83.9
Acala W-29-6	1004	2743	36.6	36.0	69	14.8	102	84.3
Stoneville 2B	998	2715	36.8	35.0	66	12.6	85	82.5
Acala 892	966	2429	39.8	34.2	57	13.6	80	42.3
Lentz Acala	959	2665	36.0	35.4	66	13.3	84	73.5
Acala 139	953	2684	35.5	36.8	57	15.3	95	68.2
Empire P-43	940	2383	39.5	34.2	60	14.5	85	85.3
Ivey No. 3	935	2624	35.6	35.6	66	13.2	84	58.8
Acala 67	932	2688	34.7	36.8	64	15.0	89	77.9
Santan Acala	923	2373	38.9	35.2	60	14.1	77	82.3
Stoneville 5A	915	2479	36.9	35.0	69	12.3	81	76.3
Coker 100, Wilt	911	2489	36.6	35.8	66	12.3	82	90.9
Acala 4-42 (Calif.)	895	2338	38.3	35.8	64	14.1	91	73.7
Rowden 41B	829	2255	36.7	34.4	59	15.5	83	75.5
Coker 100, Staple	818	2177	37.6	36.0	71	11.8	83	50.1
Missdel X Acala 23-21	817	2181	37.5	34.4	64	14.0	84	76.0
Stoneville 2B-85	804	2175	37.0	34.4	67	12.7	86	63.6
Wilds	777	2293	33.9	37.8	72	14.5	94	82.1
Roldo Rowden X Stoneville 5B-158	765	2042	37.5	34.6	68	12.5	86	78.5
M X A 10-13	757	2068	36.6	35.8	50	16.5	84	26.9
Lankart	748	1932	38.7	34.8	56	14.0	75	54.5
Mesa Acala	736	2217	33.2	38.4	60	15.3	98	71.5
Stoneville 2B X Rogers Acala 4-128	722	1943	37.2	35.2	63	13.3	87	73.7
Delfos 9169	621	1672	37.1	34.6	66	12.5	81	57.9
Sealand 542	548	1649	33.2	39.4	74	14.0	97	60.0
Least significant difference:								
Odds 19:1	147	397	.9	1.3	5	.8	4	.....
Odds 99:1	194	522	1.2	1.7	6	1.0	5	.....

[1]Expressed as the number of bolls necessary to produce one pound of seed cotton.
[2]Grams per 100 seed.
[3]Expressed as the percentage of the fiber strength of Acala 1517 WR.
[4]Expressed as the percentage of the crop harvested at the first picking.

Table 12. Agronomic data on 22 varieties of cotton grown at Ysleta, 1948

Variety	Yield, pounds per acre		Lint, percent	Staple, 1/32 inch	Boll size[1]	Fiber strength[2]	Earliness[3]
	Lint	Seed cotton					
Acala 142	1191	3128	38.1	31.8	73	79	72.5
Deltapine 15	1077	2717	39.6	33.3	69	81	74.7
Empire P-43	1065	2805	38.0	32.3	55	83	83.3
Coker 100, Wilt	1060	3018	35.1	33.3	66	81	81.9
Coker 100, Staple	1047	2915	35.9	34.0	66	84	75.5
Acala 68	1043	2925	35.7	34.0	60	89	75.0
Rogers Acala 111	1033	2873	36.0	35.5	62	95	68.4
Acala 1517 WR	1022	2927	34.9	34.8	59	100	71.2
Mesilla Acala	1015	3037	33.4	39.5	56	98	76.5
Acala 4-42 (Calif.)	996	2646	37.7	35.5	60	93	75.2
Mesa Acala	991	3172	31.3	41.0	56	98	73.0
Acala 892-17920	985	2796	35.2	32.5	63	90	78.0
Acala 1517 RB	973	2698	36.1	37.0	57	91	73.1
Acala 1517B (5563)	971	2691	36.1	37.3	58	94	70.9
Lentz Acala	965	2792	34.6	34.0	60	87	77.2
Santan Acala	958	2564	37.4	32.8	56	75	75.6
Stoneville 2B	958	2744	34.9	33.0	61	85	81.2
Acala 1517 A (2815)	944	2615	36.1	36.8	56	94	76.5
Acala 5675	943	2505	37.7	32.8	65	91	75.5
Acala 67	925	2796	33.1	37.0	60	88	66.8
Acala 139	860	2486	34.6	34.3	57	90	59.4
Sealand 542	787	2445	32.2	41.5	68	96	70.3
Least significant difference:							
Odds: 19:1	130	365	.6	2.8	3	7	.....
Odds: 99:1	172	482	.8	3.7	5	9	.....

[1]Expressed as the number of bolls necessary to produce one pound of seed cotton.
[2]Expressed as the percentage of the fiber strength of Acala 1517 WR.
[3]Expressed as the percentage of the crop harvested at the first picking.

M33-350-3M-L180

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